REMARKS

Claims 1-28 are pending in this application. With this response, claims 1, 15, 22-24, and 26-28 are amended. No new matter is added by amendment. The amendments to the claims are intended to clarify the intended scope of the claims, rather than to change their scope. Reconsideration of the claims, in light of the remarks that follow, is respectfully requested.

Claim Objections

Claims 27 and 28 stand objected to as being duplicates of claims 5 and 6. Claims 27 and 28 have been amended to depend from claim 26 instead of claim 1, thus obviating the objection.

Double-Patenting Rejections

The claims stand rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 27, 7, 8, 14, 16, and 17 of U.S. Patent No. 5,854,701 (Rao), alone, or in view of the secondary references.

Applicants submit that the amendments to the claims obviate the obviousness-type double patenting rejection. Further explanation of the differences between Rao and the claimed invention are below.

Claims Rejections – 35 USC § 102

Claims 1-2, 5-10, 13, 15-16, 19-24, and 27-28 stand rejected under 35 U.S.C. § 102(b) as being anticipated by US 5,854,710 (Rao).

Rao discloses self-adaptive Fourier processing systems for performing functions such as edge enhancement, low-, band-, and high-pass filtering (col. 7, lines 13-20). As illustrated in Fig. 1 and described in the corresponding text, the systems include an input beam 14, an actinic beam 28, an object 16', a lens 20 that performs a Fourier transform of an image of the object 16', a photochromic film 12 which is in the Fourier plane of lens 20, a lens 22 that performs an inverse Fourier transform of the light through the film, and an analyzer 14 (col. 10, line 23-col. 11, line 37). According to Rao, the input beam and the actinic beam both irradiate the photochromic film, which in response induces polarization rotations on the different spatial frequency components of the input image, in the Fourier plane of the image (col. 7, lines 21-25).

Different frequencies are then filtered out, based on their polarization, by the analyzer 14 that follows the inversely Fourier transforming lens 22 (col. 7, lines 25-26).

In contrast, claim 1 recites "a spatial filter in the Fourier plane that filters the transformed light by removing a first frequency component and transmitting a second frequency component." Rao does not disclose or suggest anything resembling a spatial filter in the Fourier plane that removes one frequency component but transmits another. Rao discloses a photochromic film in the Fourier plane that rotates the polarization of different frequencies in the Fourier plane, based on the intensity of irradiation of the input and actinic beams. Although Rao discloses subsequently performing an inverse Fourier transform on the light through the Fourier plane, and then using an analyzer to filter different frequencies based on their polarization rotation, this is not the same as a spatial filter in the Fourier plane, as required by claim 1. Thus, Rao does not anticipate claim 1, or claims dependent thereon.

Claim 15 recites "applying at least one spatial filter to the Fourier spectrum to generate a filtered Fourier spectrum, the spatial filter removing a low frequency component and transmitting a high frequency component." As discussed above, Rao discloses using a photochromic film to rotate the polarization of different frequency components of a Fourier spectrum, based on the intensity of irradiation of the input and actinic beams. Although Rao discloses subsequently performing an inverse Fourier transform on the Fourier spectrum, and then using an analyzer to filter different frequencies based on their polarization rotation, this is not the same as applying a spatial filter to the Fourier spectrum that removes a low frequency component and transmitting a high frequency component, as required by claim 15. Thus, Rao does not anticipate claim 15, or claims dependent thereon.

Claim 26 recites "a spatial filter in the Fourier plane that filters the transformed light to remove a low frequency component and transmit a higher frequency component." As discussed above, Rao discloses a photochromic film that rotates the polarization of different frequency components in a Fourier plane, based on the intensity of irradiation of the input and actinic beams. Although Rao discloses subsequently performing an inverse Fourier transform on the Fourier spectrum, and then using an analyzer to filter different frequencies based on their polarization rotation, this is not the same spatial filter in the Fourier plane, as required by claim 26. Thus, Rao does not anticipate claim 26, or claims dependent thereon.

Claim Rejections – 35 USC § 103(a)

Claims 11, 12, and 25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Rao in view of U.S. Patent No. 3,700,902 (Buchan); claims 3, 4, 17, and 18 stand rejected as being unpatentable over Rao in view of U.S. Publication No. 2002/0067535 (Trezza); claim 14 stands rejected as being unpatentable over Rao in view of U.S. Patent No. 4,625,325 (Beraudo); and claim 26 stands rejected as being unpatentable over Rao in view of U.S. Patent No. 6,421,454 (Burke).

However, Buchan, Trezza, Beraudo, and Burke do not supply that which is missing from Rao. Thus, the claims are not obvious over Rao in view of Buchan, Trezza, Beraudo, or Burke.

Conclusion

In view of the above amendment, Applicant submits that the pending application is in condition for allowance, and such action is respectfully solicited.

A petition for a one-month extension of time accompanies this response, and the Commissioner is authorized to charge the fee required for this extension to Deposit Account No. 08-0219, under Order No. 1823430.00123US2 from which the undersigned is authorized to draw. No other fees are believed due at this time. However, please charge any fees, or credit any overpayments, to Deposit Account No. 08-0219, under Order No. 1823430.00123US2.

Respectfully submitted,

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